



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,262	04/26/2004	Lih-Sheng Lo	12531-US-PA	3261

31561 7590 02/22/2007
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

SIM, YONG H

ART UNIT	PAPER NUMBER
----------	--------------

2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/709,262	Applicant(s) LO ET AL.	
	Examiner Yong Sim	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 13 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 - 3, 5 - 7, 9 - 11 and 13 is/are rejected.
- 7) ☒ Claim(s) 1, 4, 6, 8, 9 and 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: [Para 0007, line 9] "points" should be changed "point." [Para 16, line 2] "methodfor" should be changed to "method for." [Para 30] "V/4" should be changed to "-V/4."

Appropriate correction is required.

Claim Objections

2. Claim 1 is objected to because of the following informalities: Line 6, "voltageon" should be changed to "voltage on." Line 18, "signalis" should be changed to "signal is." Line 23, "ofsaid" should be changed to "of said." Appropriate correction is required.

3. Claim 6 is objected to because of the following informalities: Line 1, "methodfor" should be changed to "method for." Line 5, "voltageon" should be changed to "voltage on." Appropriate correction is required.

4. Claim 9 is objected to because of the following informalities: Line 3, "voltageon" should be changed to "voltage on." Line 14, "signalis" and "capableof" should be changed to "signal is" and "capable of" respectively.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2629

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 1, 2, 5, 9 – 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turner et al. (US 4,055,726 Hereinafter "Turner.") in view of Blonder et al. (US 5,113,041, Hereinafter Blonder).**

Re claim 1, Turner teaches a position detecting circuit (Fig. 5 and 7) for a touch pad, said touch pad (2 "Hard insulating Layer," Fig. 3) including a sensing pad (Fig. 2; The rectangular area is a sensing pad.) and a sensing pen (5 "Probe," Fig. 2), the position detecting circuit comprising: a waveform generator (30 and 31 "Source," Fig. 5. These "sources" generate voltage waveforms on Fig. 6.), for generating an input signal (See Fig. 6.), wherein said input signal is capable of gradually moving a position of a zero voltage (Fig. 6 shows positions of zero voltages of two inputs signals (v21, an v22) that have different zero voltage timing. The displacement/position of a zero voltage changes gradually depending on the time of zero crossing of the waveforms. [Col. 4, lines 56 – 62]) on said sensing pad in a predetermined direction (Col. 4, lines 56 – 62;

T1 corresponds to the horizontal direction and T2 corresponds to the vertical direction.); an amplifier (34 "Amplifier," Fig. 7), for receiving and amplifying sensing signal; an envelope detector coupled to said amplifier, for detecting said amplified sensing signal and generating an envelope signal sensing pen, and outputting said sensing signal; a zero voltage detector (37A and B, "zero level detector circuit," Fig. 7. In order for the zero voltage detector to determine the zero level of the voltages, the detector must be able to identify the peaks of the voltages thereby enveloping the signal. Therefore the functions of the envelope detector would be encompassed within the zero level detector.) for receiving said amplified and enveloped signal and generating an output signal, wherein said output signal is capable of determining as to when a zero voltage occurs (Col. 6, lines 20 – 42; "the zero level detector circuit detects when the probe voltage next reaches zero level then produces output pulses."); and a controller (Fig. 7; 32, "timing unit" and 42, 44 "counter" portion.), coupled to said waveform generator and said zero voltage detector, for controlling said waveform generator (Col. 6, lines 11 – 13; "The pulse generators and the voltage waveforms are controlled by a timing unit/controller.") to generate said input signal and determining a position of said sensing pen on said sensing pad responsive to said output signal from said zero voltage detector (Col. 6, lines 43 - 56; "The bursts of pulses/output signal are directed to a counter controlled by the timing unit. The totals in the counters are read off at the end, and the totals will respectively represent the x and y coordinates of the probe position.").

But does not describe a filter, for receiving a sensing signal sensed by said sensing pen, and filtering and outputting said sensing signal.

However, Blonder discloses a pen, which receives a high frequency signal that is filtered and amplified (31, "Filter/Amplifier" Fig. 1) by a detection circuit to determine the position of the pen on a tablet.

Therefore, taking the combined teachings of Turner and Blonder, as a whole, it would have been obvious to a person having ordinary skill in the art to incorporate the filter/amplifier as taught by Blonder to the position detecting circuit with a pen of Turner to obtain a position detecting circuit with a pen wherein the pen comprises a filter/amplifier coupled to a detector to prevent distortions in the signals to avoid possible errors.

Re claim 2, the combined teachings of Turner and Blonder teach the circuit of claim 1, further comprising a multiplexer (Turner: 21, "Switch/multiplexer" Fig. 5) for switch-inputting said input signal between a horizontal direction and a vertical direction of said sensing pad (Col. 2, lines 35 – 50; "control means connected to the connection means for switching them (horizontal and vertical) between conductive and non-conductive conditions.>").

Re claim 5, the combined teachings of Turner and Blonder teach the circuit of claim 1, wherein said zero voltage detector is a comparator (Turner: 37 "Comparator," Fig. 7).

The limitations of claim 9 are substantially similar to the limitations of claim 1. Therefore it has been analyzed and rejected similar to the rejection of claim 1.

The limitations of claim 10 are substantially similar to the limitations of claim 2. Therefore it has been analyzed and rejected similar to the rejection of claim 2.

The limitations of claim 13 are substantially similar to the limitations of claim 5. Therefore it has been analyzed and rejected similar to the rejection of claim 5.

8. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turner in view of Blonder as applied to claims 1 - 2 above, and further in view of Hasenbalg (US 3,875,331, Hereinafter "Hasenbalg").

Re claim 3, the combined teachings of Turner and Blonder teach the circuit of claim 1, but does not teach said waveform generator including two digital-to-analog converters.

However, Hasenbalg teaches a digital-to analog converter to supply input signals to a tablet, which uses a stylus as a digitizing unit.

Therefore, taking the combined teachings of Turner, Blonder and Hasenbalg, as a whole, it would have been obvious to a person having ordinary skill in the art to incorporate the digital-to-analog converters to the circuit of claim 1 with two waveform generators of Blonder and Turner to obtain a position detecting circuit with two digital-to-

analog converters provide a system that provides analog signals derived from a digitally controlled circuitry which could digitize drawings or the like (Abstract).

The limitations of claim 11 are substantially similar to the limitations of claim 3. Therefore it has been analyzed and rejected similar to the rejection of claim 3.

Claim Rejections - 35 USC § 102

9. Claim 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Turner et al. (US 4,055,726).

Re claim 6, Turner and Blonder teach a position detecting method for a touch pad, said touch pad (Turner: 2 "Hard insulating Layer," Fig. 3) including a sensing pad (Turner: Fig. 2; The rectangular area is a sensing pad.) and a sensing pen (Turner: 5 "Probe," Fig. 2), the method comprising: inputting an input signal (Turner: 30 and 31 "Source," Fig. 5. These "sources" generate voltage waveforms/input signal on Fig. 6.), wherein said input signal is capable of gradually moving a position of a zero voltage (Fig. 6 shows positions of zero voltages of two inputs signals (v21, an v22) that have different zero voltage timing. The displacement/position of a zero voltage changes gradually depending on the time of zero crossing of the waveforms. [Col. 4, lines 56 – 62]) on said sensing pad in a predetermined direction (Col. 4, lines 56 – 62; T1

Art Unit: 2629

corresponds to the horizontal direction and T2 corresponds to the vertical direction.); and determining a position of said sensing pen on said sensing pad based on a timing when a zero voltage of a sensing signal of said sensing pen occurs (Col. 6, lines 20 – 42; “the zero level detector circuit detects when the probe voltage next reaches zero level then produces output pulses.” Col. 6, lines 43 - 56; “The bursts of pulses/output signal are directed to a counter controlled by the timing unit. The totals in the counters are read off at the end, and the totals will respectively represent the x and y coordinates of the probe position.”).

Re claim 7, Turner teaches the method of claim 6, further comprising switch-inputting (Turner: 21, “Switch” Fig. 5) said input signal between a horizontal direction and a vertical direction of said sensing pad (Col. 2, lines 35 – 50; “control means connected to the connection means for switching them (horizontal and vertical) between conductive and non-conductive conditions.”).

Allowable Subject Matter

10. Claims 4, 8 and 12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2629

Re claim 4, the circuit of claim 1, wherein said position of said zero voltage moves back and forth in said predetermined direction.

Re claim 8, the circuit of claim 6, wherein said position of said zero voltage moves back and forth in said predetermined direction.

Re claim 12, the touch pad of claim 9, wherein said position of said zero voltage moves back and forth in said predetermined direction.

1. The following is an examiner's statement of reasons for allowance:

Turner et al. (US 4,055,726) teach a position responsive apparatus which comprises a sheet of uniform resistivity having four electrodes in contact therewith around a rectangular area.

Blonder et al. (US 5,113,041) teach information processing, inputting and controlling using tablet in combination with a writing or positioning implement.

Hasenbalg et al. (US 3,875,331) teach an electrostatic digitizing system which includes an X, Y digital tablet and a stylus as a graphic input unit.

None of the prior art teaches position detecting circuit wherein the zero voltage moves back and forth in a predetermined direction.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Sim whose telephone number is (571) 270-1189. The examiner can normally be reached on Monday - Friday (Alternate Fridays off) 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/709,262
Art Unit: 2629

Page 11

2/02/2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
